AMENDMENTS TO CLAIMS

1.   (Currently Amended)   A <u>computerized</u> system for exploring a decision space and making decisions comprising:

     a seeker <u>software process</u> for producing a plurality of evaluated candidates wherein each of a plurality of candidates <u>is an alternative within said decision space and</u> is evaluated according to a plurality of evaluation criteria;

     a filter <u>software process</u> for producing a set of filtered candidates from said evaluated candidates by comparing each candidate to other candidates according to at least two evaluation criteria and using a form of dominance to exclude from said subset of evaluated candidates each candidate that is inferior to any other candidate; and

     a viewer <u>software process</u> for displaying <u>at a computer display</u> said filtered candidates in a plurality of linked scatterplots wherein each axis of each scatterplot represents an evaluation criterion of said filtered candidates.

2.   (Currently Amended)   The <u>computerized</u> system of claim 1 wherein said seeker <u>software process</u> produces said plurality of evaluated candidates by retrieving a plurality of evaluated candidates from a database.

3.   (Currently Amended)   The <u>computerized</u> system of claim 1 wherein said seeker <u>software process</u> produces said plurality of evaluated candidates by generating a plurality of evaluated candidates using combinations of components from a device library.

4.   (Currently Amended)   The <u>computerized</u> system of claim 3 wherein said device

library further comprises encoded components, component behaviors, and composition schemes.

5. (Currently Amended) The <u>computerized</u> system of claim 4 wherein said components are encoded using a functional and compositional modeling language.

6. (Currently Amended) The <u>computerized</u> system of claim 3 wherein said <u>seeker software process</u> enables composition of a device without reference to a specific environment.

7. (Currently Amended) The <u>computerized</u> system of claim 3 wherein said <u>seeker software process</u> enables composition of a deployed device.

8. (Currently Amended) The <u>computerized</u> system of claim 1 wherein said <u>seeker software process</u> produces evaluated candidates using a functional and compositional modeling language capable of enabling simulations of behaviors or characteristics of candidates to answer a plurality of questions in order to evaluate said candidates according to said plurality of evaluation criteria.

9. (Canceled)

10. (Currently Amended) The <u>computerized</u> system of claim 1 wherein said <u>seeker software process</u> uses distributed computation to evaluate said plurality of candidates.

11. (Currently Amended) The <u>computerized</u> system of claim 1 wherein said filter is selected from the group consisting of classical dominance filter, strict dominance filter, superstrict dominance filter, selective superstrict dominance

filter, discernible difference dominance filter, two-pass toleranced filter, and onionskin filter.

12.   (Currently Amended) The <u>computerized</u> system of claim 1 wherein said filter uses a toleranced dominance method to produce said subset of filtered candidates.

13.   (Currently Amended) The <u>computerized</u> system of claim 1 wherein said viewer <u>software process</u> is adapted to use a multi-attribute display.

14.   (Currently Amended) The <u>computerized</u> system of claim 1 wherein said viewer <u>software process</u> displays trade-offs among elements <u>of</u> said subset of filtered candidates and enables narrowing of said subset of filtered candidates.

15.   (Canceled)

16.   (Currently Amended) The <u>computerized</u> system of claim 1 wherein said plurality of candidates comprises designs for hybrid electric vehicles.

17.   (Currently Amended) The <u>computerized</u> system of claim 1 wherein said plurality of candidates is selected from the group consisting of candidates for a design task, candidates for planning task, candidates for a purchasing task, candidates for alternative hypotheses, candidates for investments, and candidates for an investment portfolio.

18.   (Currently Amended) A <u>computerized</u> system for exploring a decision space and making decisions comprising:

a seeker <u>software process</u> for producing a plurality of evaluated candidates by generating said plurality of candidates according to templates

using combinations of components from a library and wherein each of a plurality

of candidates <u>is an alternative within said decision space and</u> is evaluated

according to a plurality of evaluation criteria;

a filter <u>software process</u> for producing a set of filtered candidates from

said evaluated candidates by comparing each candidate to other candidates to

exclude at least one evaluated candidate; and

a viewer <u>software process</u> for displaying <u>at a computer display</u> said

filtered candidates in a plurality of linked scatterplots wherein each axis of each

scatterplot represents an evaluation criterion of said filtered candidates.

19. (Currently Amended) The <u>computerized</u> system of claim 18 wherein said viewer

<u>software process</u> enables narrowing of said subset of candidates.

20. (Currently Amended) The <u>computerized</u> system of claim 19 wherein said viewer

<u>software process</u> is adapted to use a multi-attribute display.

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Currently Amended) The <u>computerized</u> system of claim 18 wherein said library

is a device library further comprising encoded components, component

behaviors, and composition schemes.

26. (Currently Amended) The <u>computerized</u> system of claim 25 wherein said

components are encoded using a functional and compositional modeling

language.

27.   (Currently Amended) The <u>computerized</u> system of claim 15 wherein said seeker <u>software process</u> enables composition of a device without reference to a specific environment.

28.   (Currently Amended) The <u>computerized</u> system of claim 25 wherein said seeker <u>software process</u> enables composition of a deployed device.

29.   (Currently Amended) The <u>computerized</u> system of claim 18 wherein said seeker <u>software process</u> produces evaluated candidates using a functional and compositional modeling language capable of enabling simulations of behaviors or characteristics of candidates to answer a plurality of questions in order to evaluate said candidates according to said plurality of evaluation criteria.

30.   (Canceled)

31.   (Currently Amended) The <u>computerized</u> system of claim 18 wherein said seeker <u>software process</u> uses distributed computation to evaluate said plurality of candidates.

32.   (Currently Amended) The <u>computerized</u> system of claim 18 wherein said filter is selected from the group consisting of classical dominance filter, strict dominance filter, superstrict dominance filter, selective superstrict dominance filter, discernible difference dominance filter, two-pass toleranced filter, and onionskin filter.

33.   (Currently Amended) The <u>computerized</u> system of claim 18 wherein said filter uses a toleranced dominance method to produce said subset of filtered

candidates.

34. (Currently Amended) The <u>computerized</u> system of claim 18 wherein said plurality of candidates comprises designs for hybrid electric vehicles.

35. (Currently Amended) The <u>computerized</u> system of claim 18 wherein said plurality of candidates is selected from the group consisting of candidates for a design task, candidates for planning task, candidates for a purchasing task, candidates for alternative hypotheses, candidates for investments, and candidates for an investment portfolio.

36. (Currently Amended) A <u>computerized</u> system for exploring a decision space and making decisions comprising:

a seeker <u>software process</u> for producing a plurality of evaluated candidates wherein each of a plurality of candidates <u>is an alternative within said</u> <u>decision space,</u> is composed using a functional and compositional modeling ~~language~~ <u>language,</u> and <u>is</u> evaluated according to a plurality of evaluation criteria;

a filter <u>software process</u> for producing a set of filtered candidates, wherein said filter compares candidates and uses at least two evaluation criteria to exclude evaluated candidates according to said evaluation criteria; and

a viewer <u>software process</u> for displaying <u>at a computer display</u> said filtered candidates in a scatterplot wherein each axis of said scatterplot represents an evaluation criterion of said candidates.

37. (Canceled).

38. (Canceled)

39. (Currently Amended) The <u>computerized</u> system of claim 36 wherein said seeker <u>software process</u> produces said plurality of evaluated candidates by composing said plurality of candidates using combinations of components from a device library.

40. (Canceled)

41. (Canceled)

42. (Currently Amended) The <u>computerized</u> system of claim 39 wherein said seeker <u>software process</u> enables composition of a device without reference to a specific environment.

43. (Currently Amended) The <u>computerized</u> system of claim 39 wherein said seeker <u>software process</u> enables composition of a deployed device.

44. (Canceled)

45. (Currently Amended) The <u>computerized</u> system of claim 36 wherein said functional and compositional modeling language is capable of enabling simulations of behaviors or characteristics of candidates to answer a plurality of questions in order to evaluate said candidates according to said plurality of evaluation criteria.

46. (Currently Amended) The <u>computerized</u> system of claim 36 wherein said seeker <u>software process</u> uses distributed computation to evaluate said plurality of candidates.

47. (Currently Amended) The <u>computerized</u> system of claim 36 wherein said filter is

selected from the group consisting of classical dominance filter, strict dominance filter, superstrict dominance filter, selective superstrict dominance filter, discernible difference dominance filter, two-pass toleranced filter, and onionskin filter.

48.   (Currently Amended) The computerized system of claim 36 wherein said filter uses a toleranced dominance method to select said subset of candidates.

49.   (Currently Amended) The computerized system of claim 36 wherein said viewer software process is adapted to use a multi-attribute display.

50.   (Currently Amended) The computerized system of claim 36 wherein said viewer software process displays tradeoffs among elements of said subset of filtered candidates and enables narrowing of said subset of filtered candidates.

51.   (Canceled)

52.   (Currently Amended) The computerized system of claim 36 wherein said plurality of candidates comprises designs for hybrid electric vehicles.

53.   (Currently Amended) The computerized system of claim 36 wherein said plurality of candidates is selected from the group consisting of candidates for a design task, candidates for planning task, candidates for a purchasing task, candidates for alternative hypotheses, candidates for investments, and candidates for an investment portfolio.

54.   (Currently Amended) A computerized method for exploring a decision space and making decisions comprising:

　　　　providing a plurality of evaluated candidates wherein each of a plurality of

candidates is an alternative within said decision space and is composed using a functional and compositional modeling language capable of enabling simulations of behaviors or characteristics of candidates to answer a plurality of questions in order to evaluate said candidates according to a plurality of evaluation criteria;

displaying at a computer display said evaluated candidates in a plurality of linked scatterplots wherein each axis of each scatterplot represents an evaluation criterion of said candidates for comparison and selection of subsets for further examination.

55. (Canceled)

56. (Currently Amended)   The computerized method of claim 54 wherein providing said plurality of evaluated candidates comprises generating said plurality of candidates using combinations of components from a device library.

57. (Canceled)

58. (Canceled)

59. (Currently Amended)   The computerized method of claim 56 wherein said plurality of candidates is generated without reference to a specific environment.

60. (Currently Amended)   The computerized method of claim 56 wherein said plurality of candidates is generated using a deployed device.

61. (Canceled)

62. (Canceled)

63. (Currently Amended)   The computerized method of claim 54 wherein said

plurality of candidates is evaluated using distributed computation.

64. (Currently Amended) The computerized method of claim 54 further comprising producing a set of filtered candidates from said plurality of evaluated candidates.

65. (Currently Amended) The computerized method of claim 64 wherein the step of producing a set of filtered candidates comprises selecting a filter from the group consisting of classical dominance filter, strict dominance filter, superstrict dominance filter, selective superstrict dominance filter, discernible difference dominance filter, two-pass toleranced filter, and onionskin filter.

66. (Currently Amended) The computerized method of claim 64 wherein the step of producing a set of filtered candidates comprises using a toleranced dominance method to select said set of filtered candidates.

67. (Currently Amended) The computerized method of claim 54 wherein displaying at a computer said evaluated candidates in a plurality of linked scatterplots comprises using a multi-attribute display.

68. (Canceled)

69. (Canceled)

70. (Currently Amended) The computerized method of claim 54 wherein said plurality of candidates comprises designs for hybrid electric vehicles.

71. (Currently Amended) The computerized method of claim 54 wherein said plurality of candidates is selected from the group consisting of candidates for a design task, candidates for planning task, candidates for a purchasing task,

candidates for alternative hypotheses, candidates for investments, and candidates for investment portfolios.

72. (Currently Amended) A computerized method for exploring a decision space and making decisions including the steps of:

producing evaluated candidates evaluated according to a plurality of evaluation criteria wherein said evaluated candidates are alternatives within said decision space;

producing a set of filtered candidates from said evaluated candidates, by comparing each candidate to other candidates according to at least two evaluation criteria and using a form of dominance to exclude each candidate that is inferior to any other candidate; and

displaying at a computer display said filtered candidates in linked scatterplots wherein each axis of each scatterplot represents an evaluation criterion of said filtered candidates.

73. (Currently Amended) The computerized method of claim 72 wherein the step of producing evaluated candidates includes the step of retrieving said plurality of candidates from a database.

74. (Currently Amended) The computerized method of claim 72 wherein said plurality of evaluated candidates is acquired using a seeker software process.

75. (Currently Amended) The computerized method of claim 72 wherein said plurality of evaluated candidates is generated by a software process using a device library.

76. (Currently Amended) The <u>computerized</u> method of claim 75 wherein said device library further comprises encoded components, component behaviors and composition schemes.

77. (Currently Amended) The <u>computerized</u> method of claim 76 further including the step of defining components for said candidates using a functional and compositional modeling language.

78. (Currently Amended) The <u>computerized</u> method of claim 75 wherein said plurality of candidates is generated <u>by a software process</u> without reference to a specific environment.

79. (Currently Amended) The <u>computerized</u> method of claim 75 wherein said plurality of candidates is generated <u>by a software process</u> using a deployed device.

80. (Currently Amended) The <u>computerized</u> method of claim 72 wherein the step of producing evaluated candidates includes the step of providing candidates using a functional and compositional modeling language for enabling simulations of behavior or characteristics of said candidates.

81. (Currently Amended) The <u>computerized</u> method of claim 80 further including the steps of asking questions about said plurality of candidates and receiving answers to them from said functional and compositional modeling language simulations.

82. (Currently Amended) The <u>computerized</u> method of claim 72 wherein the step of filtering comprises the step of filtering according to a filter from the group

consisting of classical dominance filter, strict dominance filter, superstrict dominance filter, selective superstrict dominance filter, discernible difference dominance filter, two-pass filter, and onionskin filter.

83. (Currently Amended) The computerized method of claim 72 wherein the step of filtering comprises the step of filtering according to a filter that uses a toleranced dominance relation.

84. (Currently Amended) The computerized method of claim 72 wherein the step of displaying at a computer display said filtered candidates includes the step of displaying said candidates in a multi-attribute display.

85. (Currently Amended) The computerized method of claim 72 wherein the step of displaying at a computer display said filtered candidates includes the step of displaying a trade-off scatterplot of said subset of candidates.

86. (Canceled)

87. (Currently Amended) The computerized method of claim 72 wherein the step of producing evaluated candidates includes the step of producing a plurality of candidate designs for hybrid electric vehicles.

88. (Currently Amended) The computerized method of claim 72 wherein the step of producing evaluated candidates includes the step of producing a plurality of evaluated candidates from the group consisting of candidates for a design task, candidates for planning task, candidates for a purchasing task, candidates for alternative hypotheses, candidates for investments, and candidates for an investment portfolio.

89.   (Currently Amended) A <u>computerized</u> method for exploring a decision space and making decisions comprising the steps of:

        producing a plurality of evaluated candidates wherein a plurality of candidates <u>is alternatives within said decision space,</u> is composed using a functional and compositional modeling ~~language~~ <u>language,</u> and <u>is</u> evaluated according to a plurality of evaluation criteria;

        filtering said plurality of evaluated candidates to produce a set of filtered candidates wherein said filtering compares each candidate to other candidates according to at least two evaluation criteria to exclude from said evaluated candidates each candidate that is inferior to any other candidate;

        displaying on a <u>computer</u> screen linked scatterplots wherein each axis of each scatterplot represents an evaluation criterion of said filtered candidates and that show a distribution of candidates along each evaluation criterion for a decision problem.

90.   (Currently Amended) The <u>computerized</u> method of claim 89 further comprising the step of selecting candidates using an interactive graphical user interface.

91.   (Currently Amended) The <u>computerized</u> method of claim 89 further comprising the step of performing intersections of sets of selected candidates.